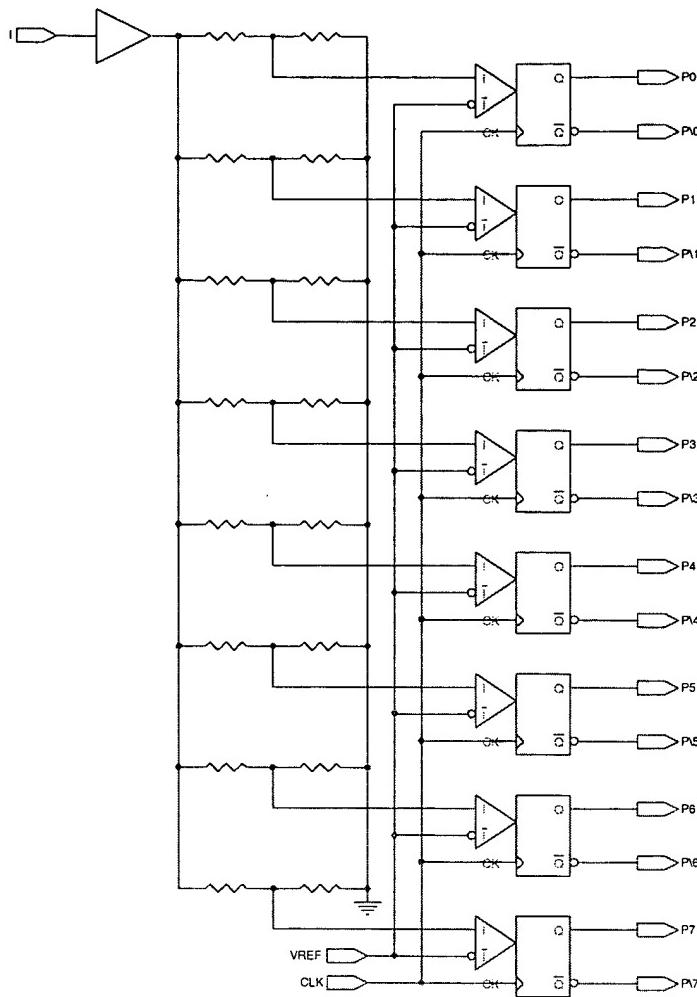
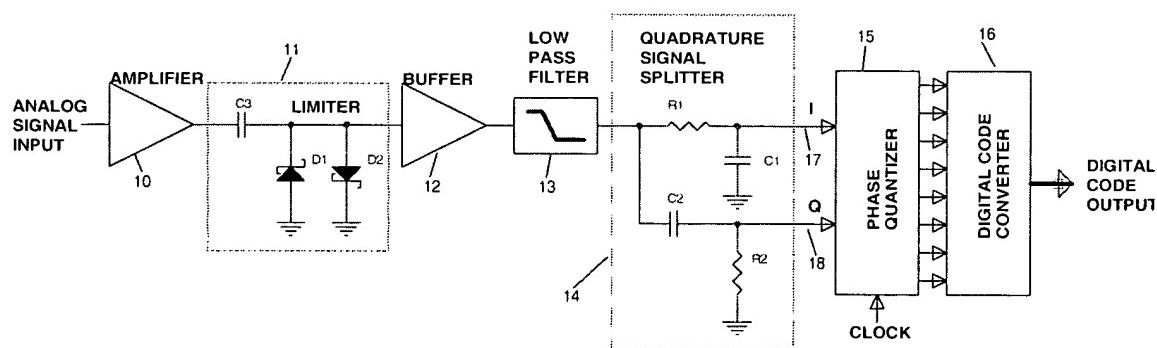


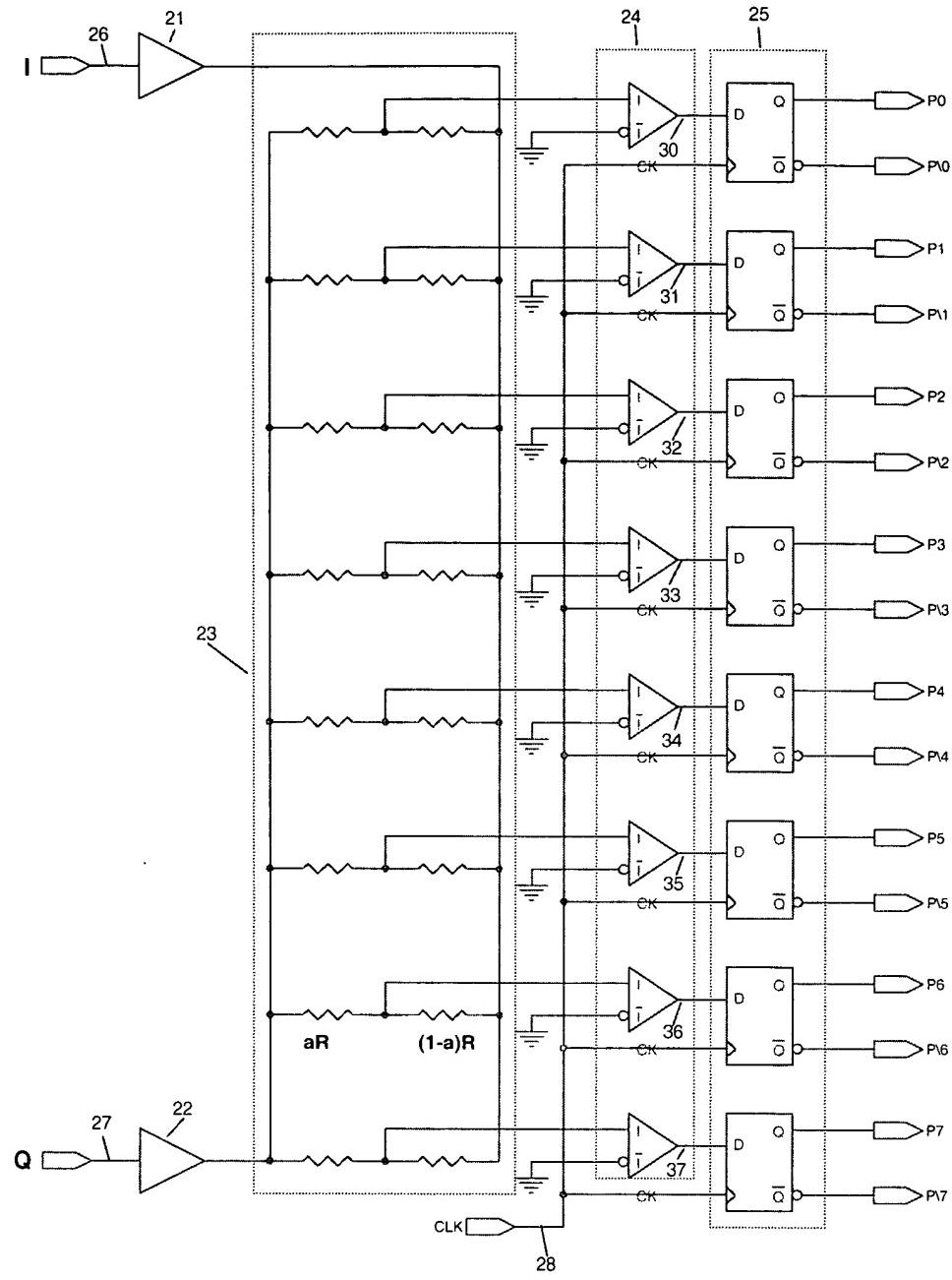
**Figure 1A.** Prior art magnitude digitizer.



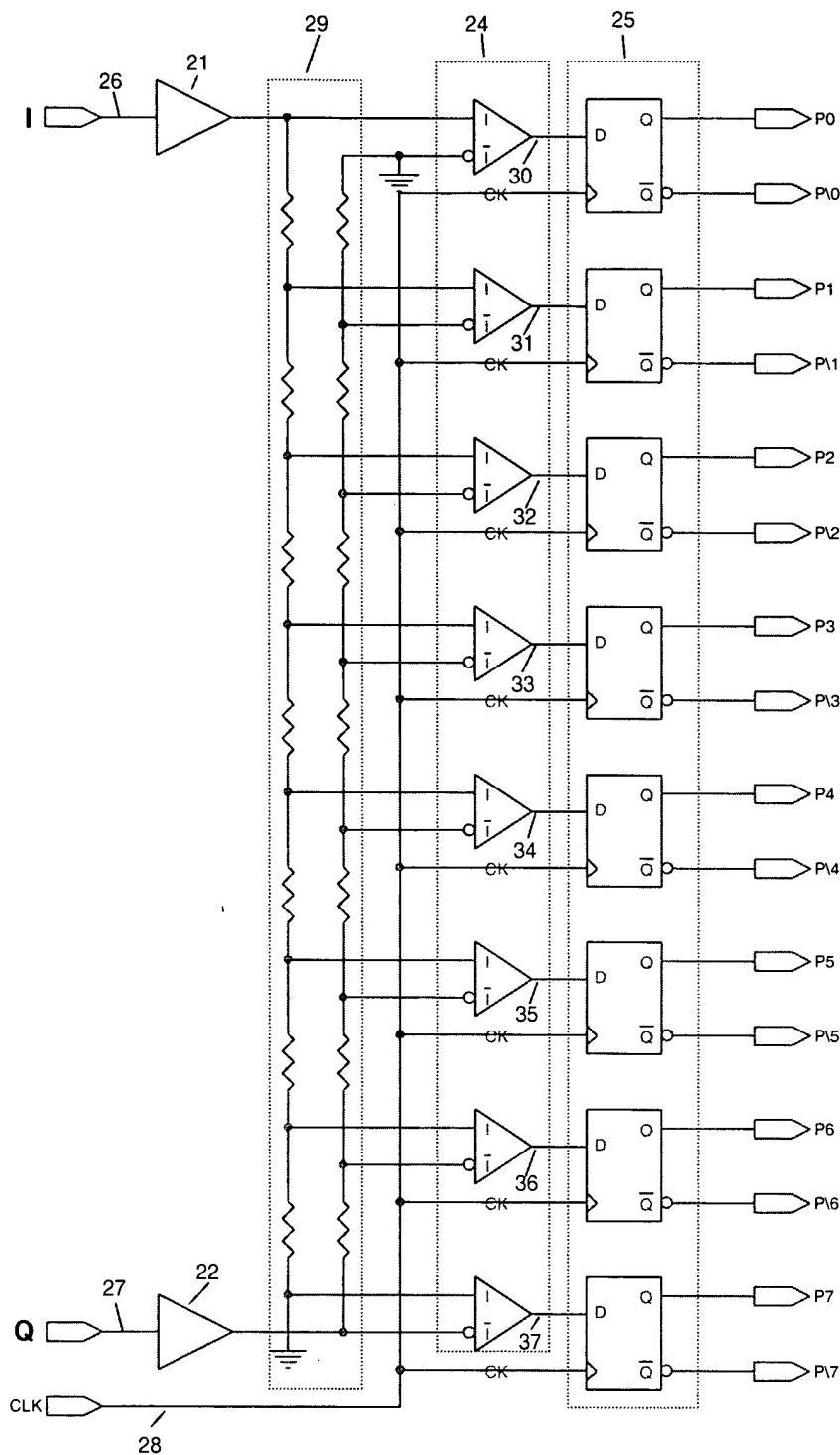
**Figure 1B.** An alternative embodiment of an ADC.



**Figure 2.** Embodiment of the phase digitizer.



**Figure 3A. An embodiment of a phase quantizer.**



**Figure 3B. Another embodiment of a phase quantizer.**

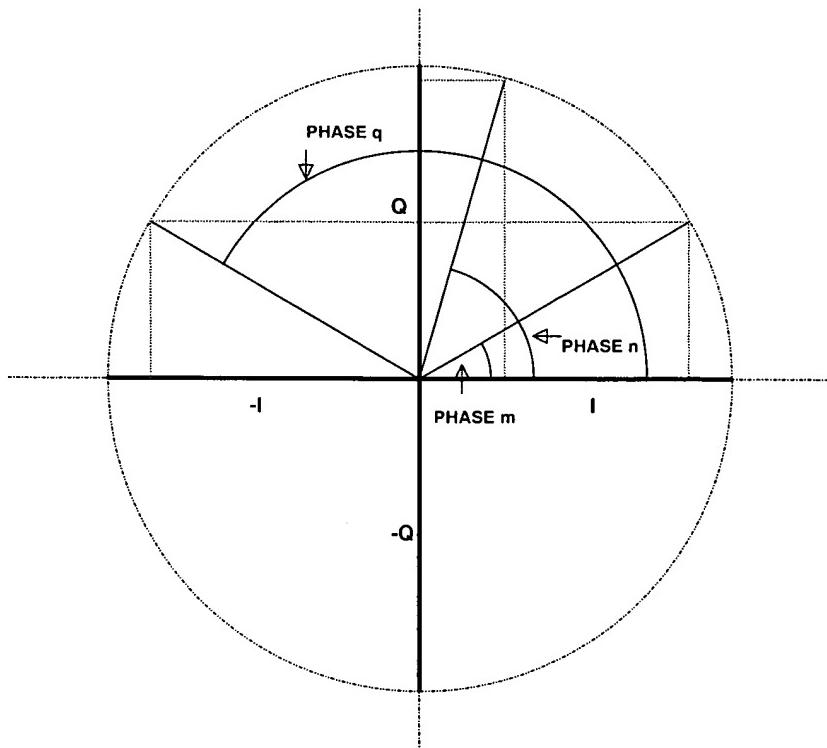
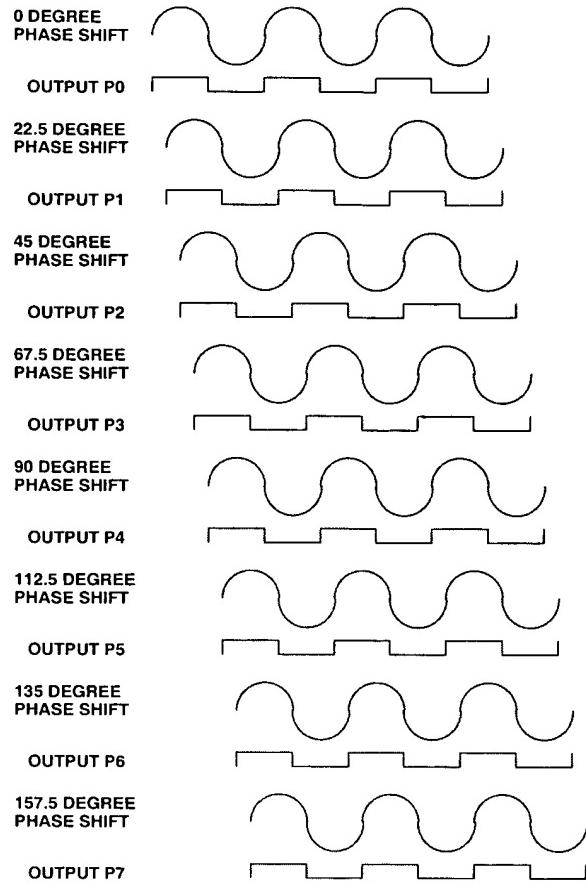
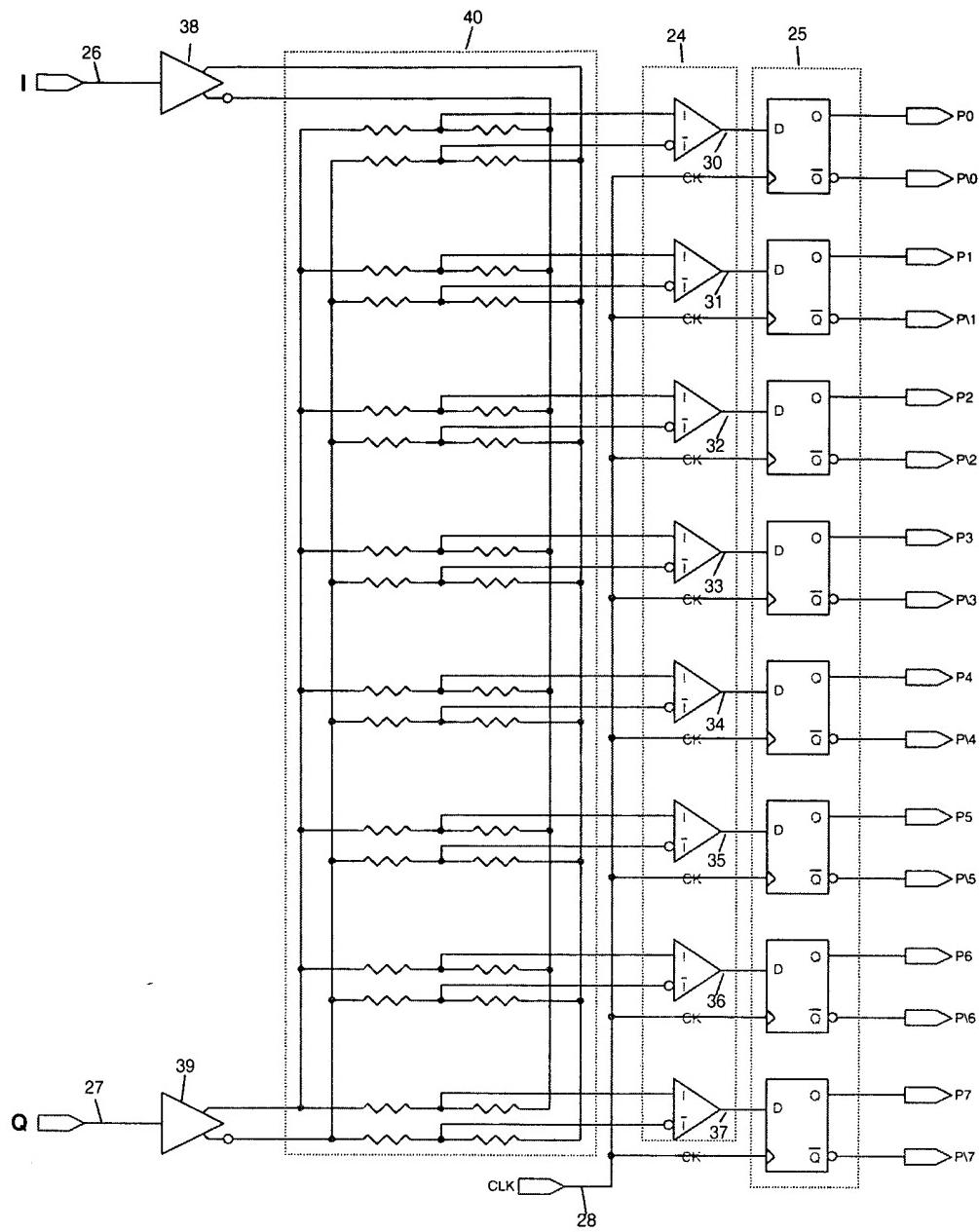


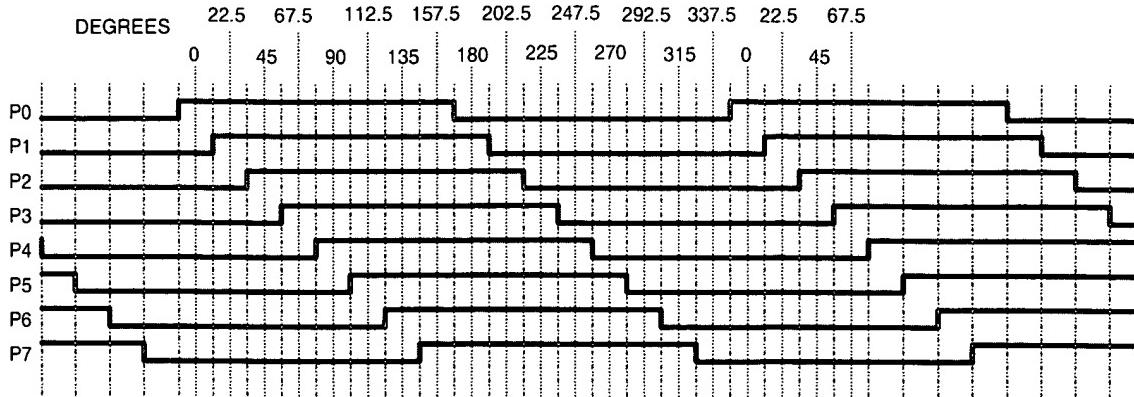
Figure 4. Phasor diagram of various phases.



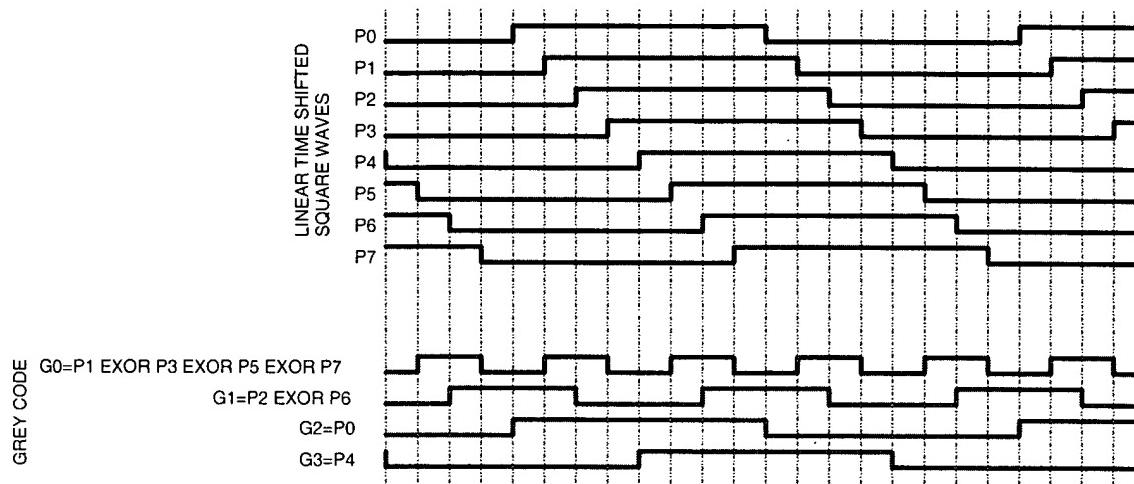
**Figure 5.** Phase shifted sinewaves at the inputs to the comparators, and the outputs of the comparators.



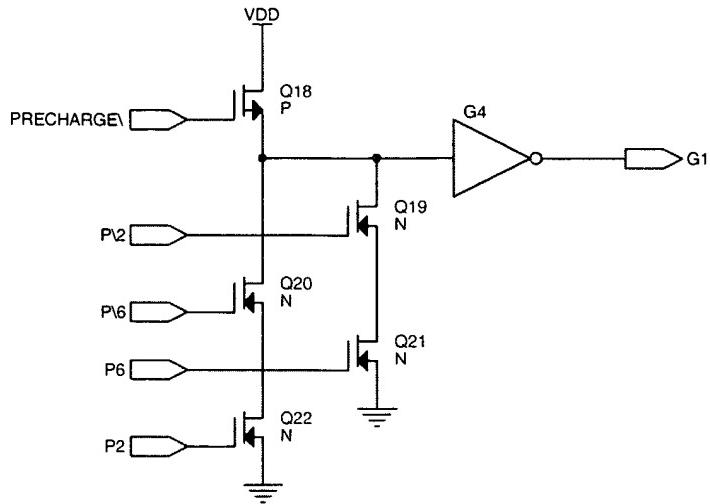
**Figure 6.** An alternative embodiment of a phase quantizer.



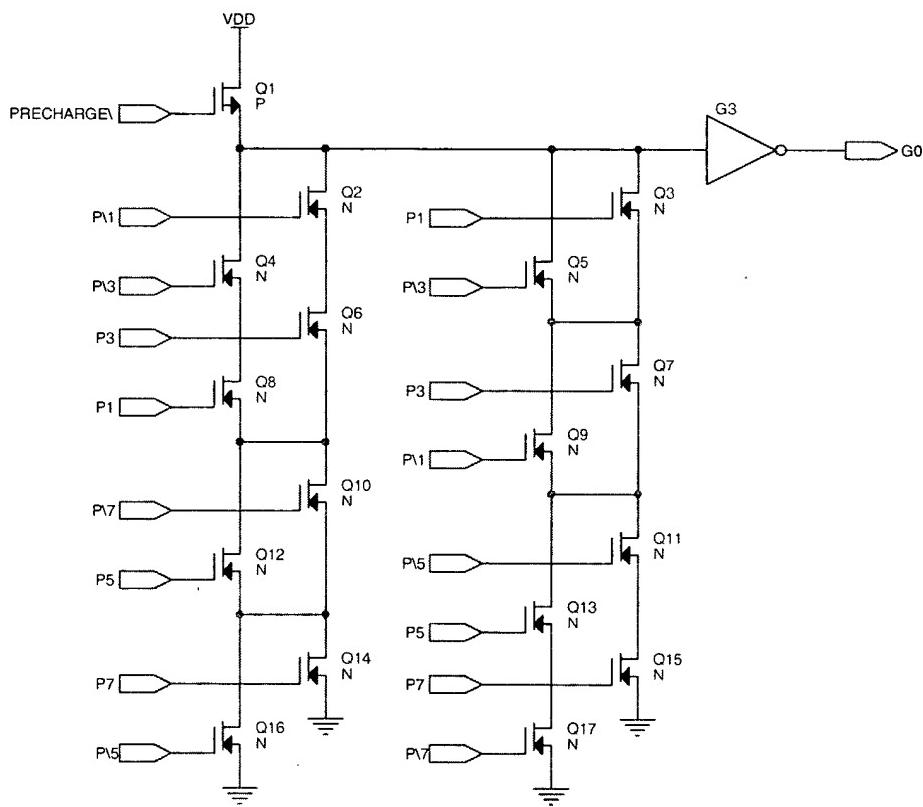
**Figure 7.** Phase shifted square waves at the inputs to the flip-flops.



**Figure 8.** Conversion of the outputs of the flip-flops into Gray Code bits.



**Figure 9. Embodiment of P2 EXOR P6.**



**Figure 10. Embodiment of P1 EXOR P3 AND P5 EXOR P7.**

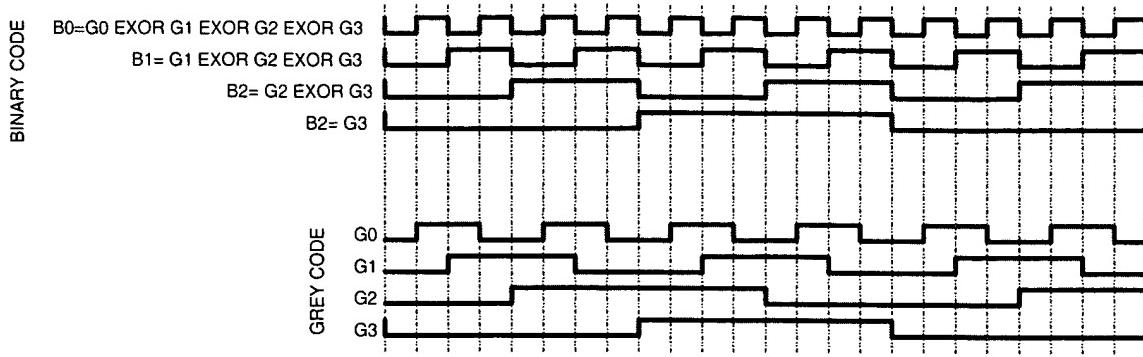


Figure 11. Conversion of Gray code to Binary code.

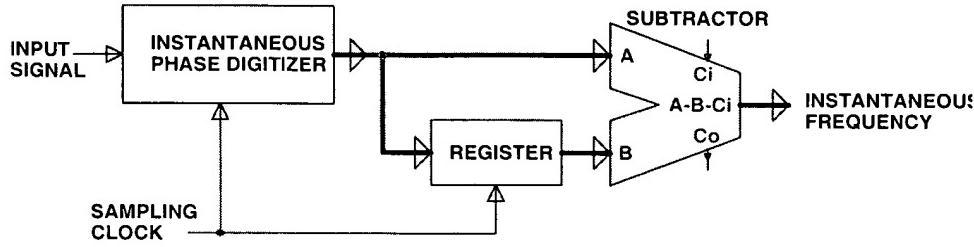


Figure 12. Embodiment of an instantaneous frequency measurement circuit.

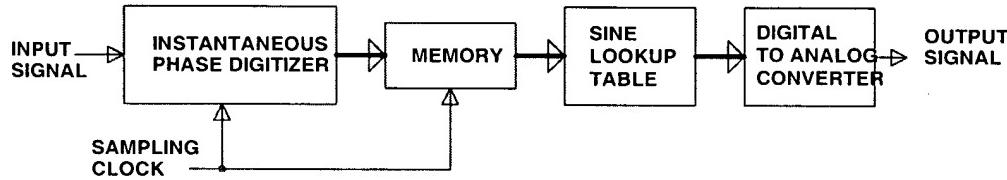


Figure 13. Embodiment of a Digital RF Memory

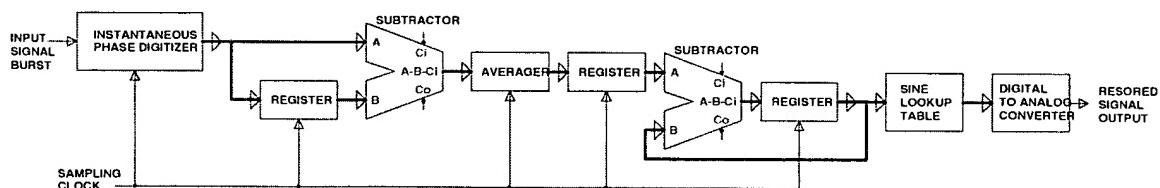


Figure 14. Embodiment of a frequency restoration circuit.